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10/572,785	03/21/2006	Jochen Wehner	WEHNER-2 PCT	9559

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COLLARD & ROE, P.C.
1077 NORTHERN BOULEVARD
ROSLYN, NY 11576

EXAMINER	
MCCULLEY, MEGAN CASSANDRA	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/572,785	WEHNER, JOCHEN	
	Examiner	Art Unit	
	Megan McCulley	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 April 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *20-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 20-23 and 26-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Singh et al. (U.S. Pat. 5,077,371) in view of Althaus et al. (U.S. Pat. 4,950,792) in further view of Sondhe et al. (U.S. Pat. 5,340,652).

Regarding claim 20, 23, 33, 34, 36, and 38: Singh et al. teaches a process for production comprising mixing one or more low molecular weight polyols having a molecular weight of less than 250 (col. 2 lines 20-28) and being a polyether polyol with two hydroxyl groups (col. 3 lines 17-29). Therefore, the concentration of hydroxyl groups per kilogram is between 8 (MW=250) and 22 (MW=90, lowest molecular weight of the preferred polyol, butanediol). Also disclosed is a high molecular weight polyol having a molecular weight of 650-3000 with a functionality of 2 (col. 2 lines 50-66). Therefore, the concentration of hydroxyl groups per kilogram is between 0.66 (MW=3000) and 3 (MW=650). Also mixed are an aromatic amine (col. 1 lines 29-33) and a polyisocyanate (col. 2 lines 24-28).

Singh et al. does not disclose the polyol component premixed before the mixing of the polyol component and the polyisocyanate component. However, Althaus et al. teaches mixing the polyol and amine before processing with the isocyanate (col. 4 lines 11-18). Singh et al. and Althaus et al. are analogous art since they are both concerned with the same field of endeavor, namely polyurethane production. At the time of the

invention a person having ordinary skill in the art would have found it obvious to combine the processing steps disclosed in Althaus et al. with the composition disclosed in Singh et al. and would have been motivated to do so since it is a process usually used in polyurethane production and requires fewer reaction sequence steps than prepolymer formation (col. 4 lines 11-28)

Singh et al. also does not disclose a light resistant aromatic amine. However, Althaus et al. teaches the light resistant aromatic amine 4,4'-methylene-bis(3-chloro-2,6-diethylaniline) (col. 2 lines 53-55). At the time of the invention a person having ordinary skill in the art would have found it obvious to substitute the amine disclosed in Althaus et al. for the amine of Singh et al. and would have been motivated to do so since it is very temperature stable, as evidenced by Althaus et al. (col. 2 lines 20-25).

Singh et al. also does not disclose bringing the mixture into contact with a synthetic resin not cured or not completely cured. However, Sondhe et al. teaches mixing (col. 13 line 31) a composition comprising an aromatic amine (col. 3 line 3), and a polyol component and a polyisocyanate component (abstract). Sondhe et al. also teaches that upon mixing, the urethane system will immediately commence reaction (col. 13 lines 33-35); therefore it is at least partially cured. Also disclosed is application to an epoxy, which is not fully cured (col. 3 lines 59-62). Sondhe et al. and Singh et al. are analogous art because they are both concerned with the same field of endeavor, namely polyurethane compositions cured with aromatic amines. At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the composition of Singh et al. with the process of Sondhe et al. and would

have been motivated to do so for such desirable properties as lower residual free aromatic polyisocyanates, as evidenced by Singh et al. (col. 1 lines 5-10).

The process of the above combination would implicitly yield a synthetic resin composite material.

Regarding claim 21: While Singh et al. does not directly teach that the gel coat at 23°C displays an elongation at break (measured as per DIN EN ISO 527) of at least 3%, since all of the components are present in the composition it is inherent that the composition would have these properties. If it is applicants' position that this would not be the case: (1) evidence would need to be presented to support applicants' position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain a composition with these properties.

Regarding claim 22: Singh et al. does not teach the polyurethane gel coat is not completely cured. However, at the time of the invention a person having ordinary skill in the art would have found it obvious to not completely cure the polyurethane gel coat based on the teaching of Sondhe et al. and would have been motivated to do so since this would allow the urethane to bleed and intermingle with the epoxy in order to form chemically fused layers, as evidenced by Sondhe et al. (col. 3 lines 57-68).

Regarding claims 26, 27, 28, and 29: Althaus et al. teaches 4,4'-methylene-bis(3-chloro-2,6-diethylaniline) (col. 2 lines 53-55), which is a 4,4'-methylenebis (2,6-dialkyl-aniline). As evidenced by paragraphs 60-63 of the Pre-Grant Publication of the instant application, this particular aromatic amine when subjected to the limitations

found in claims 26 and 27 of the instant application inherently gives the desired gel time and color shade change. If it is applicants' position that this would not be the case: (1) evidence would need to be presented to support applicants' position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain a composition with these properties.

Regarding claim 30: Singh et al. teaches the basic composition as set forth above. Not disclosed is the amount of the amine. However, Althaus et al. teaches 19.5 parts amine per 100 parts polyol (Table 3 Amine No. V). At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the amount of amine of Althaus et al. with the composition of Singh et al. and would have been motivated to do so to achieve the desired pot life.

Regarding claims 31, 32, and 37: Singh et al. teaches 0-8% of the low molecular weight polyol in the polyol component (col. 3 lines 17-29). Therefore, there is 100-92% of the high molecular weight component.

Regarding claim 35: Singh et al. teaches the high molecular weight polyol is a polyether polyol (col. 2 lines 50-66).

Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Singh et al. (U.S. Pat. 5,077,371) in view of Althaus et al. (U.S. Pat. 4,950,792) in further view of Sondhe et al. (U.S. Pat. 5,340,652) as applied to claim 20 and in further view of Motsinger et al. (U.S. Pat. 3,217,536).

Regarding claims 24 and 25: Singh et al. teaches the basic process as set forth above. Not disclosed is the synthetic resin is a reinforced contains reinforcing materials. However, Motsinger et al. teaches a polyurethane coating on an epoxy resin laminated with fiberglass (col. 3 line 66-col. 4 line 1). Singh et al. and Motsinger et al. are analogous art because they are both concerned with the same field of endeavor, namely polyurethanes. At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the fiberglass laminated epoxy of Motsinger et al. with the composition of Singh et al. and would have been motivated to do so for such desirable properties as to provide strength and weather protection, as evidenced by Motsinger et al. (col. 4 lines 1-14).

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Singh et al. (U.S. Pat. 5,077,371) in view of Althaus et al. (U.S. Pat. 4,950,792) in further view of Sondhe et al. (U.S. Pat. 5,340,652) as applied to claim 38 and in further view of Chapin (U.S. Pat. 4,089,215).

Regarding claim 19: Singh et al. teaches the basic material as set forth above. Not disclosed is that it is part of a rotor vane. However, Chapin teaches a similar material on a rotor vane (abstract, col. 5 lines 45-55). The use of the rotor vane in a wind power plant is intended use and carries little patentable weight (see MPEP 2111.02 II). Singh et al. and Chapin are analogous art since they are both concerned with the same field of endeavor, namely polyurethane products. At the time of the invention a person having ordinary skill in the art would have found it obvious to

combine the use of Chapin with the composition of Singh et al. and would have been motivated to do so since a rotor vane needs to have low inertia to provide a prompt and accurate response to changes in rate of air flow, as evidenced by Chapin (col. 5 lines 45-55).

Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Singh et al. (U.S. Pat. 5,077,371) in view of Althaus et al. (U.S. Pat. 4,950,792) in further view of Sondhe et al. (U.S. Pat. 5,340,652).

Regarding claim 40: Singh et al. teaches a process for production comprising mixing one or more low molecular weight polyols having a molecular weight of less than 250 (col. 2 lines 20-28) and being a polyether polyol with two hydroxyl groups (col. 3 lines 17-29). Therefore, the concentration of hydroxyl groups per kilogram is between 8 (MW=250) and 22 (MW=90, lowest molecular weight of the preferred polyol, butanediol). Also disclosed is a high molecular weight polyol having a molecular weight of 650-3000 with a functionality of 2 (col. 2 lines 50-66). Therefore, the concentration of hydroxyl groups per kilogram is between 0.66 (MW=3000) and 3 (MW=650). Singh et al. teaches 0-8% of the low molecular weight polyol in the polyol component (col. 3 lines 17-29). Therefore, there is 100-92% of the high molecular weight component. Also mixed are an aromatic amine (col. 1 lines 29-33) and a polyisocyanate (col. 2 lines 24-28).

Singh et al. does not disclose the polyol component premixed before the mixing of the polyol component and the polyisocyanate component. However, Althaus et al.

teaches mixing the polyol and amine before processing with the isocyanate (col. 4 lines 11-18). At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the processing steps disclosed in Althaus et al. with the composition disclosed in Singh et al. and would have been motivated to do so since it is a process usually used in polyurethane production and requires fewer reaction sequence steps than prepolymer formation (col. 4 lines 11-28)

Singh et al. also does not disclose a light resistant aromatic amine. However, Althaus et al. teaches the light resistant aromatic amine 4,4'-methylene-bis(3-chloro-2,6-diethylaniline) (col. 2 lines 53-55). At the time of the invention a person having ordinary skill in the art would have found it obvious to substitute the amine disclosed in Althaus et al. for the amine of Singh et al. and would have been motivated to do so since it is very temperature stable, as evidenced by Althaus et al. (col. 2 lines 20-25). Not disclosed is the amount of the amine. However, Althaus et al. teaches 19.5 parts amine per 100 parts polyol (Table 3 Amine No. V). At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the amount of amine of Althaus et al. with the composition of Singh et al. and would have been motivated to do so to achieve the desired pot life.

Singh et al. also does not disclose bringing the mixture into contact with a synthetic resin not cured or not completely cured. However, Sondhe et al. teaches mixing (col. 13 line 31) a composition comprising an aromatic amine (col. 3 line 3), and a polyol component and a polyisocyanate component (abstract). Sondhe et al. also teaches that upon mixing, the urethane system will immediately commence reaction

(col. 13 lines 33-35); therefore it is at least partially cured. Also disclosed is application to an epoxy, which is not fully cured (col. 3 lines 59-62). At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the composition of Singh et al. with the process of Sondhe et al. and would have been motivated to do so for such desirable properties as lower residual free aromatic polyisocyanates, as evidenced by Singh et al. (col. 1 lines 5-10).

Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Singh et al. (U.S. Pat. 5,077,371) in view of Althaus et al. (U.S. Pat. 4,950,792) in further view of Sondhe et al. (U.S. Pat. 5,340,652).

Regarding claim 41: Singh et al. teaches a process for production comprising mixing one or more low molecular weight polyols having a molecular weight of less than 250 (col. 2 lines 20-28) and being a polyether polyol with two hydroxyl groups (col. 3 lines 17-29). Therefore, the concentration of hydroxyl groups per kilogram is between 8 (MW=250) and 22 (MW=90, lowest molecular weight of the preferred polyol, butanediol). Also disclosed is a high molecular weight polyol having a molecular weight of 650-3000 with a functionality of 2 (col. 2 lines 50-66). Therefore, the concentration of hydroxyl groups per kilogram is between 0.66 (MW=3000) and 3 (MW=650). Also mixed are an aromatic amine (col. 1 lines 29-33) and a polyisocyanate (col. 2 lines 24-28).

Singh et al. does not disclose the polyol component premixed before the mixing of the polyol component and the polyisocyanate component. However, Althaus et al.

teaches mixing the polyol and amine before processing with the isocyanate (col. 4 lines 11-18). At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the processing steps disclosed in Althaus et al. with the composition disclosed in Singh et al. and would have been motivated to do so since it is a process usually used in polyurethane production and requires fewer reaction sequence steps than prepolymer formation (col. 4 lines 11-28)

Singh et al. also does not disclose a light resistant aromatic amine. However, Althaus et al. teaches the light resistant aromatic amine 4,4'-methylene-bis(3-chloro-2,6-diethylaniline) (col. 2 lines 53-55). At the time of the invention a person having ordinary skill in the art would have found it obvious to substitute the amine disclosed in Althaus et al. for the amine of Singh et al. and would have been motivated to do so since it is very temperature stable, as evidenced by Althaus et al. (col. 2 lines 20-25).

Singh et al. also does not disclose bringing the mixture into contact with a synthetic resin not cured or not completely cured. However, Sondhe et al. teaches mixing (col. 13 line 31) a composition comprising an aromatic amine (col. 3 line 3), and a polyol component and a polyisocyanate component (abstract). Sondhe et al. also teaches that upon mixing, the urethane system will immediately commence reaction (col. 13 lines 33-35); therefore it is at least partially cured. Also disclosed is application to an epoxy, which is not fully cured (col. 3 lines 59-62). At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the composition of Singh et al. with the process of Sondhe et al. and would have been

motivated to do so for such desirable properties as lower residual free aromatic polyisocyanates, as evidenced by Singh et al. (col. 1 lines 5-10).

Response to Arguments

Applicant's arguments with respect to claims 20-41 have been considered but are moot in view of the new ground(s) of rejection.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Megan McCulley whose telephone number is (571)270-3292. The examiner can normally be reached on Monday - Thursday 7:30-6:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/
Supervisory Patent Examiner, Art Unit 1796

/M. M./
Examiner, Art Unit 1796